DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on **April 14, 2008** has been entered.

2. This Office Action is in response to applicant's amendment filed on **April 14, 2008**, which has been entered into the file.

3. By this amendment, the applicant has amended claim 1.

4. Claims 1-2 remain pending in this application.

Response to Amendment

5. The amendment filed **on April 14, 2008** is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: **claim 1 has been amended** to include the phrase "data bits are horizontally overlapping such that a first row of data bits horizontally overlaps a next succeeding row and data bits". The specification fails to give EXPLICILTY and POSITIVE support for such description.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. **Claims 1-2 are rejected under 35 U.S.C. 112, first paragraph**, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The reasons for rejection based on the newly added matters are set forth in the section "response to amendment".

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over PCT publication by Coene (WO 03/034596 A1) in view of the patent issued to Woods et al (PN. 7,116,626).

. **Coene** discloses a holographic system for recording and reading out holographic data in the form of pages in a holographic medium (Fig. 14), wherein in one embodiment the detector comprises elements, which are positioned in a staggered fashion, and more specifically in a *quasi-hexagonal shape* (Fig. 15B, line 25, p. 13 to line 14, p. 14). It is noted that Coene specifically defines "Vfsq", or "Vfhex", as the "arrangement of detector elements in the image plane", see lines 27-28, p. 13.

Coene teaches that the data bits of the holographic data page can be arranged to have staggered structure (please see Figures 1B, 2A-2C) to increase the packing density of the data bits.

Claim 1 has been amended to include the phrase "data bits horizontally overlapping such that a first row of data bits horizontally overlaps a next succeeding row of data bits". This feature is not fully supported by the disclosure of the specification of the instant application, therefore is rejected under 35 USC 112, first paragraph, (details described above). Coene teaches that the data bits of the holographic data can be arranged to have staggered structure wherein the first row of the data bits horizontally overlaps a next succeeding row of data bits as explicitly demonstrated in Figures 1B and 2A to 2C.

This reference however does not teach explicitly that the data bits and the detection elements are matching each other. However the so-called "pixel matching", which means an one-to-one matching between the holographic data bits and the detector elements are well known in the holographic data storage art as taught by **Woods** et al to reduce bits decoded in error in relation to total bits of the data page, i.e. to obtain low bit error rate, (BER, please see column 1, lines 51-67). It would then have been obvious to one skilled in the art to apply the teachings of **Woods** et al to modify the pixellated detector elements and the holographic data bits arrangement of **Coene** to make it in "pixel matching" arrangement to achieve lot bit error rate in reading the holographic bits data information.

Response to Arguments

10. Applicant's arguments with respect to newly amended claims 1-2 have been considered but are moot in view of the new ground(s) of rejection.

11. Applicant's arguments are mainly drawn to the newly amended features of the claims and they have been fully addressed in the reasons for rejections stated above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 571-272-2309. The examiner can normally be reached on Monday-Friday (9:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Audrey Y. Chang, Ph.D.
Primary Examiner
Art Unit 2872

A. Chang, Ph.D.
/Audrey Y. Chang/
Primary Examiner, Art Unit 2872